### Magnetic Resonance Imaging

# MRI



WHAT IS MRI?

Magnetic Resonance Imaging (MRI) is a noninvasive procedure that uses no ionizing radiation. MR imaging uses a powerful magnetic field, radio frequency pulses and a computer to produce detailed pictures of organs, soft tissues, bone and virtually all other internal body structures. The images can then be examined on a computer monitor, printed or copied to CD. MRI does not use ionizing radiation (x-rays).

#### HOW DOES THE PROCEDURE WORK?

procedure performed by positioned on the moveable examination table. Straps and bolsters may be used to help you stay still and maintain the correct position during

You will be moved into the magnet of the MRI unit and the radiologist and technologist will leave the room while the MRI examination is performed.

If a contrast material is used during the examination, it will be injected into the intravenous line (IV) after an initial series of scans. Additional series of images will be taken during or following the injection.

When the examination is completed, you may be asked to wait until the technologist or radiologist checks the images in case additional images are needed.

Your intravenous line will be removed.

MR spectroscopy, which provides additional information on the chemicals present in the body's cells, may also be performed during the MRI exam and may add approximately 15 minutes to the exam time

### WHAT WILL I EXPERIENCE DURING AND AFTER THE PROCEDURE?

Most MRI exams are painless, It is normal for the area of your body being imaged to feel slightly warm .you will hear tapping or thumping sounds when the coils that generate the radiofrequency pulses are activated, the technologist will be able to see, hear and speak with you at all times using a two-way intercom. You may be offered or you may request earplugs to reduce the noise of the MRI scanner, which produces loud thumping and humming noises during imaging. MRI scanners are air-conditioned and well-lit. Some scanners have music to help you pass the time. When the contrast material is injected, it is normal to feel coolness and a flushing sensation for a minute or two Manufacturers of intravenous contrast indicate mothers should not breast feed their babies for 24-48 hours after contrast medium is given.



MR images of the soft-tissue structures of the body—such as the heart, liver and many other organs— is more likely in some instances to identify and characterize abnormalities and focal lesions than other imaging methods.

MRI enables the discovery of abnormalities that might be obscured by bone with other imaging methods.

MRI allows physicians to assess the biliary system noninvasively and without contrast injection.

## HOW SHOULD I PREPARE FOR THE PROCEDURE?

You may be asked to wear a gown during the exam or you may be allowed to wear your own clothing if it is loose-fitting and has no metal fasteners.

Jewelry and other accessories should be left at home if possible, or removed prior to the MRI scan. These items include:

. Jewelry, watches, credit cards and hearing aids, all of which can be damaged.

- Pins, hairpins, metal zippers and similar metallic items, which can distort MRI images.
- Removable dental work.
- Pens, pocketknives and eyeglasses.
- body piercings

In most cases, an MRI exam is safe for patients with metal implants, except for a few types. People with the following implants cannot be scanned:

- internal (implanted) defibrillator or pacemaker
- cochlear (ear) implant
- some types of clips used on brain aneurysms
- · artificial heart valves
- implanted drug infusion ports
- implanted electronic device,
- artificial limbs or metallic joint prostheses
- · implanted nerve stimulators
- metal pins, screws, plates, stents or surgical staples

#### WHAT DOES THE EQUIPMENT LOOK LIKE?

The traditional MRI unit is a large cylindershaped tube surrounded by a circular magnet. You will lie on a moveable examination table that slides into the center of the magnet.

Some MRI units, open on the sides ("lowstrength" open MRI). These units are especially helpful for examining patients who are fearful of being in a closed space and for those who are very obese. But certain types of exams cannot be performed using open MRI.



